



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,243	08/27/2003	Motoyuki Shima	5988-055-027	3756

7590

07/05/2005

Supervisor, Patent Prosecution Services  
PIPER RUDNICK LLP  
1200 Nineteenth Street, N.W.  
Washington, DC 20036-2412

EXAMINER

ASHTON, ROSEMARY E

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/648,243

Applicant(s)

SHIMA ET AL.

Examiner

Rosemary E. Ashton

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-12 is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/20/04 and 16 LATEO CASES</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1752

**DETAILED ACTION**

1. The 102(e) rejection of the claims over Nishimura ~~2003~~/203309 was removed because applicant filed a 1.132 Declaration on February 10, 2004 establishing the inventors of the subject matter in Nishimura and the instant application as stated in MPEP 2136.05.

***Claim Objections***

2. Claim 1 is objected to because of the following informalities: In line 2 the word least is spelled "lest". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. patent no. 6,517,993.

The patent teaches a radiation sensitive composition comprising a copolymer such as copolymer 1 in col. 13. Copolymer 1 has monomers having applicant's formulas 1 (f-1) and 3 (f-3). In f-1 R2 on the adamantyl ring is a methyl group and in f-3 R2 on the cyclohexyl ring is an ethyl group. In col. 15 the copolymer is combined with a triphenylsulfonium photoacid generator (PAG) and PGMEA as the solvent. The PAG has a 4-methoxy group as in f-7 of the instant application.

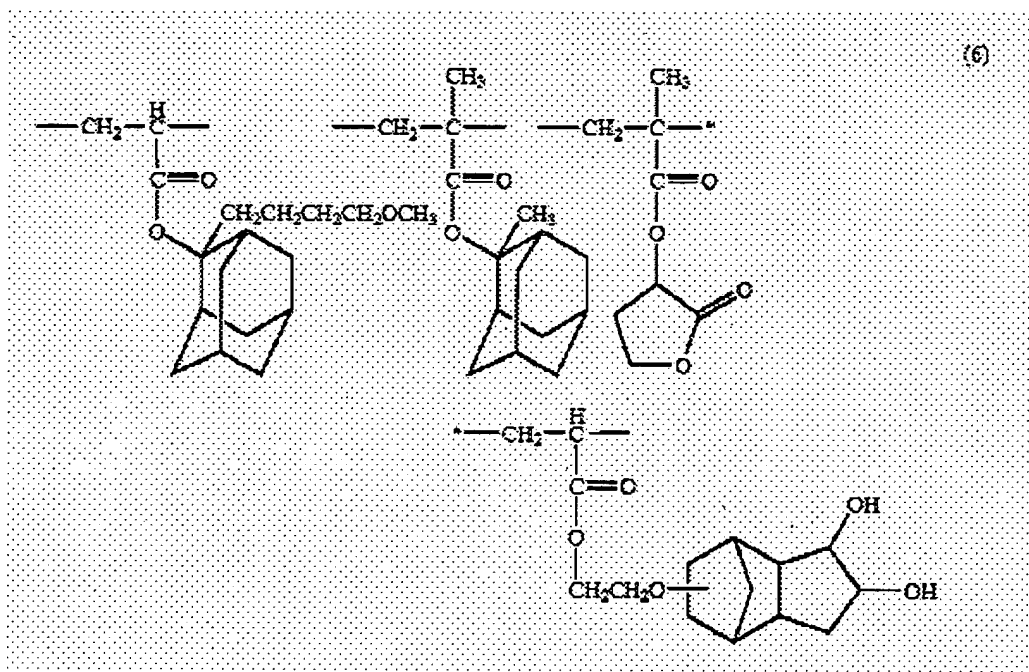
The patent does not teach the amount of monomers in the polymer as claimed, however, it would have been obvious to one of ordinary skill in the to vary the amount of monomers with a reasonable expectation of obtaining a polymer for a photoresist composition because variation in the amount of monomers in a polymer to obtain a successful photoresist composition is well known in the art.

5. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. patent no. 6,824,956.

Art Unit: 1752

The patent teaches a radiation sensitive composition comprising copolymer 6 shown below.

Copolymer 6 has monomers having two of applicant's formula 1 (f-1). In the acrylate monomer R2 is a  $(CH_2)_4OCH_3$  and in the methacrylate monomer R2 is a methyl group. As shown in Table 2 copolymer 6 is combined with a triphenylsulfonium photoacid generator (PAG4-6) and PGMEA (S1) as the solvent.

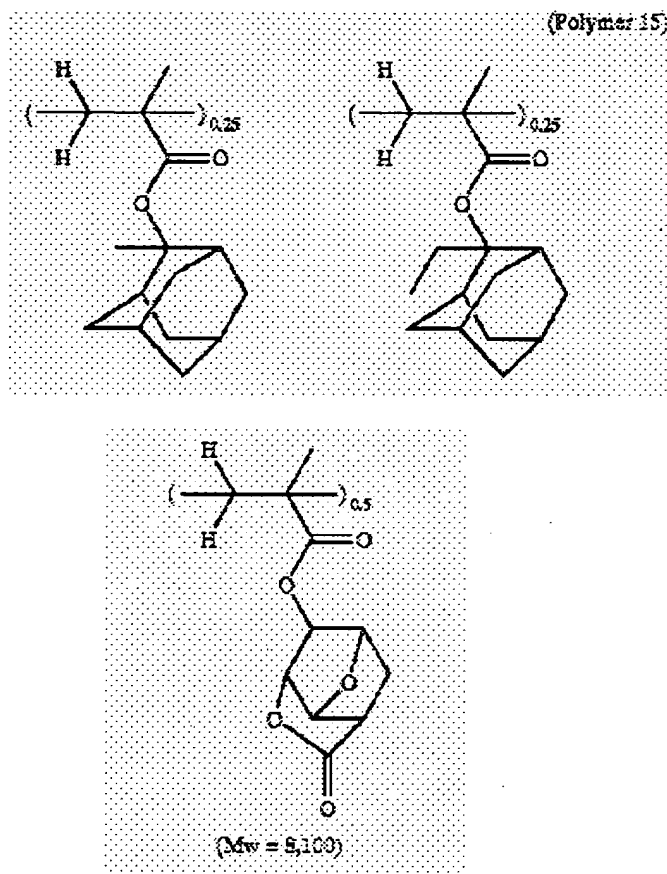


The patent does not teach the amount of monomers in the polymer as claimed, however, it would have been obvious to one of ordinary skill in the to vary the amount of monomers with a reasonable expectation of obtaining a polymer for a photoresist composition because variation in the amount of monomers in a polymer to obtain a successful photoresist composition is well known in the art.

6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. patent no. 6,830,866.

Art Unit: 1752

The patent teaches a radiation sensitive composition comprising a polymer such as copolymer 15 in col. 48, shown below. Copolymer 15 has monomers having two of applicant's formulas 1 (f-1). In the first adamantyl monomer R2 is a methyl group and in the second adamantyl monomer R2 is an ethyl group. In Table 2 (example 29) in col. 55 copolymer 15 is combined with a triphenylsulfonium photoacid (TPSNf) and cyclohexanone (CyHO) as the solvent.



The patent does not teach the amount of monomers in the polymer as claimed, however, it would have been obvious to one of ordinary skill in the to vary the amount of monomers with a reasonable expectation of obtaining a polymer for a photoresist composition because variation in the amount of monomers in a polymer to obtain a successful photoresist composition is well known in the art.

***Allowable Subject Matter***

7. Claims 10-12 are allowed.

Art Unit: 1752

8. The following is an examiner's statement of reasons for allowance: No prior art was found reading on a radiation sensitive composition comprising a polymer having a monomer with formula 6 wherein R2 is a methyl group and at least one monomer unit consisting of monomers 1-3 wherein R2 is a methyl group and a photoacid generator.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosemary E. Ashton whose telephone number is 571-272-1326. The examiner can normally be reached on Mon-Fri, 11:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rosemary E. Ashton  
Primary Examiner  
Art Unit 1752

June 23, 2005

**ROSEMARY ASHTON  
PRIMARY EXAMINER**